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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/434,394	11/04/1999	JOHN S., YATES JR.	114596-20-4009	3898

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EXAMINER
NGUYEN BA, HOANG VU A

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _18 April 2005_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-59 and 61-65_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-59 and 61-65_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _2/28/05_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to the Request for Withdrawal of Finality of Office Action filed April 18, 2005.

2.   Applicant's request for reconsideration of the finality of the rejection of the last Office action is not persuasive. However, in order to resolve remaining issues raised by Applicants, the finality of that action is withdrawn.

3.   Claims 1-59 and 61-65 remain pending. Claims 1, 2, 14, 22, 30, 40 and 55 are independent.

Response to Arguments

4.   Applicant's arguments filed April 18, 2005 have been fully considered but they are not persuasive. Following is the Examiner's response to Applicants' arguments.

    a.   **Paragraph 11-12: Double Patenting over Yates 6,397,379**

      Applicants' arguments:

          The Advisory Action of March 28, 2005 does not mention any double patenting rejection over '379 patent. It is therefore assumed that any double-patenting issue relative to the Yates' 379 patent is resolved.

          If there is any remaining issue with the '379 patent, Applicant requests that the Examiner make the specific showings required by MPEP § 804(B)(1): (a) identify <u>one</u> claim of this application, and <u>one</u> claim of the '379 patent (not a combination of claims that do not depend on each other), and (b) make a showing that claim of the '379 patent (not a combination of claims that do not depend on each other), and (b) make a showing that <u>every</u> limitation in the identified claim of this application is identical to or an obvious variant of the identified claim of the '379 patent. Without those showings, no rejection exists, let alone a final rejection.

      Examiner's response:

The Examiner respectfully notes the following: in the Advisory Action, the Examiner did neither check box 5 nor box 6. Therefore, Applicants' reply has <u>not</u> overcome the obviousness-type double patenting rejection of claims 1-59 and 61-65 over '379 patent made in the previous Office action. The Examiner also notes that considering Applicants' inconsistencies in their paper of February 28, 2005 (see footnote 2 at page 2 of the Remarks/Arguments filed April 18, 2005) the arguments were thus moot and need not be addressed at the time the Advisory Action.

As for Applicants' request for specific showings required by MPEP § 804(B)(1), Applicants' attention is directed to paragraph 12 of the Office action mailed on December 30, 2004.

The Examiner also notes that since this is <u>not</u> a statutory double patenting, the requirement for making a showing that <u>every</u> limitation in an identified instant claim be identical to an identified patent claim.

Furthermore, the Examiner notes that an obviousness-type double patenting does <u>not</u> required that <u>every</u> limitation in an identified instant claim be an obvious variant of an identified patent claim. Rather, an obviousness-type double patenting could be established when an identified instant claim recites an obvious variation of the <u>invention</u> (not an obvious variant of a limitation) claimed in a patent claim. In this instance, the correspondence between the independent claims and the patented claims is shown in the final Office action and repeated herein for Applicants' convenience as follows:

Instant Claim	Patented Claim
1	4+8

2+3	4+7
14+17	4+8
22	4+8
30	4+8
40	4+8
55	4+8

It is noted that in the instant application, Claim 3 depends from Claim 2, 17 from 14 and in the '379 patent, Claim 8 depends from Claim 4. There is no combination of claims that do not depend on each other as indicated by Applicants.

In addition to the comparison of instant Claim 1 with patent claim 4+8, following is a comparison between instant Claim 22 with patent Claim 4+8:

Instant Claim 22	'379 Patent Claim 8
while translating at least a segment of a binary representation of a program from a first instruction set architecture in a second instruction set architecture, distinguishing individual memory loads that are believed to be directed to well-behaved memory from memory loads that are believed to be directed to non-well-behaved memory device(s);	while translating at least a segment of a binary representation of a program from a first instruction set architecture to a second instruction set architecture, using the recording to distinguish memory loads that are believed to be directed to well-behaved memory from memory loads that are believed to be directed to non-well-behaved memory;
while executing the second representation, identifying a load that was believed at translation time to be directed to well-behaved memory but that at execution time is found to be directed to non-well-behaved memory, based at least	while executing the translation into the second instruction set architecture, identifying loads that were believed at translation time to be directed to well-behaved memory but that at execution are found to be directed to non-well-

in part on an annotation encoded in a segment descriptor, and aborting the identified memory load; and	behaved memory, and aborting the identified memory load;
based at least in part on the identifying, re-executing at least a portion of the translated segment of the program in the first instruction set.	re-executing at least a portion of the translated segment of the program in the first instruction set.

The newly added limitation based at least in part on an annotation encoded in a segment descriptor to claim 22 is considered not sufficiently distinct to distinguish these claims over corresponding claims 4+8 of '379 patent because this feature is deemed not only inherent but necessary to identify device with a memory address that cannot be guaranteed to well behave according to the teachings of patent '379.

Instant Claim 22 thus recites an obvious variation of the invention claimed in the patented Claim.

b.   **Paragraph 13: Double Patenting over Yates 6,789,181**

Applicants' arguments:

The **first** error in the Advisory Action is its failure to make any showing that any of the three underlined claim limitations are either identical to or obvious variants of claim 19. The Action is simply silent on these three limitations. The Advisory Action is insufficient to raise any rejection at all, let alone a final rejection.

Second, the Advisory Action attempts to combine claim 18 of the '181 patent with claims 16 and 19. Neither, claims 18 nor 19 is dependent on the other. If there is no claim "16+18+19" in the '181 patent, there is no "patenting" of such subject matter in the '181 patent, and no "double patenting" here. The Advisory Action is insufficient to raise any rejection at all, let alone a final rejection.

For four separate reasons, no double patenting rejection has been raised over claim 19 of Yates '181. No terminal disclaimer is warranted.

Examiner's response:

The Examiner withdrew the obviousness-type double patenting rejection of instant Claim 1 over '181 patent Claim 19 (i.e., 16+19) in light of Applicants' arguments.

However, instant Claim 1 is considered to be anticipated by '181 patent Claim 31 (i.e., 29+31) as shown in the following table:

Instant claim 1	Patent claim 31
a. a binary translator programmed to translate at least a segment of a binary representation of a program from a first representation in a first instruction set architecture to a second representation in a second instruction set architecture, <u>a sequence of side-effects in the second representation differing from a sequence of side-effects in the translated segment of the first representation</u>, the second representation distinguishing individual memory loads that are believed to be directed to well-behaved memory from memory loads that are believed to be directed to non-well-behaved memory devices;	while translating the source program from a first instruction set to the object program in a second instruction set, distinguishing individual memory loads that are believed to be directed to well-behaved memory from memory loads that are believed to be directed to non-well-behaved memory device(s); (Claim 31)
b. instruction execution circuitry	

designed, while executing the second representation, to identify an individual memory-reference instruction, or an individual memory reference of an instruction, <u>a side-effect arising from the memory reference having been reordered by the translator</u>, the memory reference having been believed at translation time to be directed to well-behaved memory but that at execution time is found to reference a device with a valid memory address that cannot be guaranteed to be well-behaved, based at least in part on an annotation encoded in a segment descriptor, and	while executing the object program, identifying (Claim 31) a load that was believed at translation time to be directed to well-behaved memory but that at execution is found to be directed to non-well-behaved memory, (Claim 31)
c. based in the distinguishing, <u>to identify whether the differences in sequence of side-effects may have a material effect on the execution of the program</u>; and	
d. circuitry and/or software designed to establish program state equivalent to a state that would have occurred in the execution of the first representation, and to resume execution of the translated segment of the program in the first	establishing a state of the program corresponding to a state that would have occurred during an execution of the source program, and from which execution can continue. (Claim 29)

instruction set.	

   Although the conflicting claims are not identical, they are not patentably

distinct from each other because the subject matter claimed in instant claim 1 is

merely an obvious variation of that claimed in patent claim 31. The features that are

missing in patent claim 31 are the underlined features in the above table. However,

these features consisting of identification of side-effects and their material effect on

the execution of the program are deemed inherent to the method of translating a

source program into an object program described in patent '181 (18:10-65) because

without the identification of side effects individual memory loads that are believed to

be directed to well-behaved memory could not be distinguished from memory loads

that are believed to be directed to non-well-behaved memory device. Furthermore,

without the analysis of the material effect, how could the program determine whether

a memory is well-behaved or non well-behaved.

   Regarding the added limitation "based at least in part on an annotation

encoded in a segment descriptor" to instant claim 1, the Examiner notes that this

feature is commonly known in the art (also described in '181 patent at 1:44-52) and

deemed inherent to Yates teachings of distinguishing individual memory loads that are

believed to be directed to well-behaved memory from memory loads that are believed

to be directed to non-well-behaved memory devices ('181 patent at 18:25-65).

Without this annotation encoded in a segment descriptor, it is not possible for the

second representation to distinguish individual memory loads that are believed to be

directed to well-behaved memory from memory loads that are believed to be directed to non-well-behaved memory devices.

Similar reasoning also applies to the remaining claims of the instant application.

5.   In view of the foregoing discussion, the Examiner considers the obviousness-type double patenting rejection of the instant claims over the claims of '379 and '181 patents proper. The rejection is thus maintained.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hoang-Vu A. Nguyen-Ba whose telephone number is (571) 272-3701. The Examiner can normally be reached on Tuesday-Friday, 7:15 – 17:45.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Tuan Dam can be reached at (571) 272-3695.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
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Should you have questions on access to the Private PAIR system, contact the
Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANTONY NGUYEN-BA
PRIMARY EXAMINER
Art Unit 2192

May 17, 2005